

# PILS zwykłe piwo

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- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **26**
- SRM **3.9**
- Style **Dortmunder Export**

## Batch size

- Expected quantity of finished beer **16 liter(s)**
- Trub loss **5 %**
- Size with trub loss **16.8 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **19.7 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **12.3 liter(s)**
- Total mash volume **15.8 liter(s)**

## Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **12.3 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **10.9 liter(s)** of **76C** water or to achieve **19.7 liter(s)** of wort

## Fermentables

| Type  | Name                       | Amount         | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Pilzneński                 | 3.2 kg (90.9%) | 81 %  | 4   |
| Grain | Strzegom Monachijski typ I | 0.32 kg (9.1%) | 79 %  | 16  |

## Hops

| Use for | Name                  | Amount | Time   | Alpha acid |
|---------|-----------------------|--------|--------|------------|
| Boil    | Chinook               | 7 g    | 60 min | 13 %       |
| Boil    | Saaz (Czech Republic) | 25 g   | 20 min | 4.5 %      |
| Boil    | Saaz (USA)            | 25 g   | 5 min  | 3.75 %     |

## Yeasts

| Name                             | Type  | Form | Amount | Laboratory    |
|----------------------------------|-------|------|--------|---------------|
| Bavarian lager m76 Mangrove jack | Lager | Dry  | 20 g   | Mangrove Jack |